

Our reference: 16-162

19 October 2018

Tanner Kibble Denton Architects Pty Ltd

Email: <JJahangiri@tkda.com.au>

Attn: Jamileh Jahangiri

Dear Jamileh,

**RE: SCHOFIELD PUBLIC SCHOOL  
PROPOSED COUNCIL STORMWATER CONDITIONS**

As requested we comment on Council's proposed stormwater conditions as follows.

***Drainage Conditions General***

1. *All engineering works required by this consent must be designed and undertaken in accordance with the relevant aspects of the following documents except as otherwise authorised by this consent:*
  - a. *Blacktown City Council's Works Specification - Civil (Current Version)*
  - b. *Blacktown City Council's Engineering Guide for Development (Current Version)*
  - c. *Blacktown City Council Development Control Plan (Current Version) including Part J - Water Sensitive Urban Design and Integrated Water Cycle Management*
  - d. *Blacktown City Council Growth Centre Precincts Development Control Plan*
  - e. *Blacktown City Council Soil Erosion and Sediment Control Policy (Current Version)*
  - f. *Blacktown City Council On Site Detention General Guidelines and Checklist*

and

***Drainage Department***

- G iii Amend drawing and OSD references to comply with Council's **Water Sensitive Urban Design (WSUD) Standard Drawings** Plan No. A(BS)175M and with the **Blacktown City Council - On-site Detention Deemed to Comply Tool** spreadsheet. Minimum OSD volume is 557 m<sup>3</sup>. Based on 87.5% draining to OSD then 1.5 year flow is 39.81 l/s and 100 year flow is 146.98 l/s.

The stormwater system currently documented complies with the nominated documents, in *Drainage Conditions General item 1*, however the 'Blacktown City Council (BCC) deemed to comply tool spreadsheet referenced *Department drainage G iii* contradicts the requirements in the nominated documents b) & f).

The key point of difference is that documents b) & f) requires the use of a high early discharge pit to control outflow in the minor storm events, but the 'Blacktown City Council (BCC) deemed to comply tool spreadsheet" does not permit the use of a high discharge pit, which is also the requirement nominated in **Drainage Department Gii Remove note: "High Early Discharge Control Pit..." Council does not permit the use of HED pits for discharge control. Redirect the inflow pipes direct to the main tank.**

Further to the above, condition **On-Site Detention item 1** requires to provide an on-site detention system in accordance with Council's Engineering Guide for Development. This condition will need to be amended or revised to be consistent with the adopted outcome.

The use of high early discharge pit as part of the OSD is normal practice. These conditions need to be modified to permit the use of a high early discharge pit.

### **Drainage Department**

1. *A Flood Management Plan is to be prepared by an experienced Chartered hydraulic engineer registered on National Engineering Register, to address emergency flood management of the site including the overland flooding from Junction Street, the use as appropriate of warning signs, notices of procedures and depth gauges (if required). The Plan is to recommend whether to shelter-in-place or evacuate. The Plan is to incorporate maintenance free measures into the development to ensure the timely, orderly and safe evacuation of people from the area if required should a flood occur. Detail the evacuation route. Any requirements of the report are to be implemented prior to occupation. A colour laminated copy of the Flood Management Plan is to be permanently affixed within the building to a noticeboard within a staff room or assembly hall.*

and

### **Drainage**

2. *A sensitivity analysis should be completed regarding potential discharge for existing pit in the low point of Junction Road adjoining the school and the effect of overland flow through the school*

The site is not in a Council designated flood zone. However to understand these requirements we spoke by phone with Matthew Makomaski (BCC) senior engineer, who advised that sensitivity analysis is in relation to the requested 'Flood Management Plan' FMP and that the requirement for a FMP is because localised flooding is occurring at the sag in the road adjacent to the school due to a pipe blockage in Junction Road and the developed upstream catchments.

This would be a significant flood modelling exercise to mitigate the risk rather than removing the risk by making good the street drainage. From a Safety in Design approach removal of the risk is the desired outcome.

### **Drainage Department**

- A. *The development is required to provide on-site detention for the development area (12248 m<sup>2</sup>) using an underground concrete tank (Atlantis Cells are not permitted). The on-site detention system is to be designed in accordance with Council's **Water Sensitive Urban Design (WSUD) Standard Drawings Plan No. A(BS)175M** and with the **Blacktown City Council - On-site Detention Deemed to Comply Tool** spreadsheet (Excel copy available from Council on request). The WSUD Standard Drawings can be accessed from Council's website as follows: [www.blacktown.nsw.gov.au](http://www.blacktown.nsw.gov.au)*

We infer that this requirement relates to the requirements of the deemed to comply spreadsheet preventing the use of a high early discharge pit, outline previously. If a high early discharge pit is allowed as recommended previously that this requirement should similarly be revoked. We believe no reference is made within Council's documentation to not allow the use of Atlantis Cells.

### **Erosions and Sediment Control**

1. *Finished levels of all internal works at the road boundary of the property must be 4% above the top of kerb.*

We believe this require is standard condition for new developments where footpaths have not been installed. However, both road frontages to school have existing footpaths, although road kerb and guttering has not been installed on the Junction Road frontage.

Because both street frontages have footpaths this condition should be omitted.

### **Drainage Department**

1. *The twenty (20) 200 micron Enviropods and seventeen (17) 460 mm high Stormfilter cartridges supplied by Stormwater 360 are not to be reduced in size or quantity, nor replaced with an alternate manufacturer's product.*

and

### **Drainage Department**

*Drawing number SW2: iii. Amend the Stormfilter Pit to include twenty-two 460 mm high Stormfilters. Extend the weir to a minimum length of 2.9 m and extend the baffle to 300 mm below the weir level.*

and

### **Drainage Department**

3. *Stormwater 360 is to certify for the installation of the twenty (20) 200 micron Enviropods and seventeen (17) Stormfilters that:*
- ii. *A minimum of twenty (20) 200 micron Enviropods have been installed;*

The proposed site currently requires nineteen (19) grated inlet pits and eighteen (18) 460mm high Stormfilter cartridges. The above conditions need to be amended to state certification is

required for the number of Enviropods and Stormfilter cartridges as detailed within the civil documentation to comply with the stormwater quality treatment targets within Council's Engineering Guide for Development and Development Control Plan Part J - Water Sensitive Urban Design and Integrated Water Cycle Management.

### ***Building Code of Australia Compliance***

#### ***Stormwater Drainage***

1. *Stormwater, surface water and sub-surface seepage (other than natural flows) shall be prevented from entering the building or being diverted onto any adjoining land (as applicable) by:*

*a.) the floor level being a minimum 225mm above the adjoining finished ground level,  
and/or*

This requirement is not compliant with the accessibility code/ EFSG. This condition needs to be amended remove the "and" from the end of the sentence and rely on the requirements of condition (b) *"being drained to an effective drainage system"*.

Please request any further information you may require.

**Yours faithfully,**

**Woolacotts Consulting Engineers**

A handwritten signature in blue ink, appearing to read 'K. Christesen', with a long horizontal flourish extending to the right.

**Kevin Christesen**